



FAME Mechanisms

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Baseline Design



- Marmon Clamp for spacecraft-interstage separation (delta qualification test for thermal environment)
- Separation spring cartridges at spacecraft-interstage interface to achieve necessary delta-V for no contact.
- Trim Tabs (3) each include hinges (2), motor (1), pin puller (1), pin puller bracket (1), potentiometer (1), limit switch (1)
- Trim Areas (3) each include alignment brackets (6), pivot (2), motor (1), sector gears (1), potentiometer (1), limit switch (1)
- Trim Masses (2) each include motor (1), ball screw (1), bracket (1), anti-backlash nut (1), potentiometer (1), limit switch (1)
- The following mechanisms have been **eliminated**:
 - Solar Array Mechanisms
 - Star Tracker Covers

Note: Not all hardware is listed, only major components!



Purchases



<u>Mechanism Component</u>	<u>Cost</u>	<u>Purchase Date</u>	<u>Delivery</u>
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- Marmon Clamp
 - Pyro bolts, Pyros \$131K Mar 02 26 weeks
- Trim Tab
 - Motor \$52K Jan 02 20 weeks
 - Pin Puller \$27K Jul 02 12 weeks
 - Potentiometer Under Investigation
- Trim Area
 - Motor \$43K Jan 02 20 weeks
 - Sector Gear Under Investigation
 - Potentiometer Under Investigation
- Trim Mass
 - Motor \$49K Jan 02 20 weeks
 - Ball screw Under Investigation
 - Anti-backlash nut Under Investigation
 - Potentiometer Under Investigation

Note: Cost based on vendor quotes.

Note: Not all necessary hardware is listed.



Schedule



Mechanism	Proto	Fab	QTP	ATP	Integration	
Marmon Clamp	N/A	10/02	10/02	05/03	02/04	
Spring Cartridge	04/02	10/02	02/03	04/03	02/04	
Trim Tab	11/01	01/02	12/02	02/03	09/03	
Trim Area		11/01	01/02	12/02	03/03	09/03
Trim Mass	11/01	01/02	12/02	03/03	09/03	

Note: Some parallel assy/test due to spending profile limitations.
Long assy/test durations due to manpower, facility, budget limitations.